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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/552,100  
Filing Date: September 30, 2005  
Appellant(s): SHANNI, VINCENT

\_\_\_\_\_  
Richard S. Roberts  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 23 December 2010 appealing from the Office action mailed 24 November 2009.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

4,660,332	Colvin, Jr.	4-1987
3,146,864	Nystrom et al.	9-1964
5,461,832	Smith	10-1995

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Colvin, Jr. (4,660,332) (herein Colvin) in view of Nystrom et al. (3,146,864) (herein Nystrom).

**Regarding claims 1, 12 and 23,** Colvin teaches a multi-story prefabricated folding structure comprising:

a generally rectangular central core (5 of figures 1 and 2) and a sub-core attached under the central core (sub-core is illustrated in figure 17; all the components of the central core are included in the sub-core) comprising a plurality of core walls (22-28, figures 6-8 and 10-13), a core floor section (41) connected to and extending between the core walls at a base of the core walls (as illustrated in figures 6-8 and 10-13), and a core roof section connected to and over the core walls and over the core floor section (roof sections as illustrated in figures 7, 11 and 13);

a plurality of folding rooms and a plurality of folding sub-rooms (folding sub-rooms via figure 17; all the components of the folding rooms are included in the folding sub-rooms), attached to the central core; each folding room comprising a plurality of

room wall members (71 and 72 figures 6-8 and 10-13), a folding room floor section (folding floor members 61 and 62) and sub-floor section (sub-floors as illustrated in figure 17 comprise all the components of the main floor section) removably attached to and extending between the room walls at a base of the room walls and a folding a room roof section (folding ceiling sections 81 and 82) removably attached to and extending over the room wall members and extending over the room floor section (as illustrated in figures 6-8, 11 and 13); each of the room wall members, the room floor section and the room roof section comprising a plurality of spaced beams having at least one flat side (figure 5 illustrates floor joists 411 and 413, ceiling joists 402, and studs 273 each have at least one flat side and are spaced from each other).

at least one said room floor section (61, 62) being pivotally connected (via pivot 2 of figures 6-8) at one end thereof to said core floor section (core section 41) (column 3 lines 30-32); at least said one room roof section being pivotally connected at one end thereof to said core roof section (as illustrated in figures 2 and 6-8 the roof is pivotally connected to core); said room wall members being removably attached (via nut and bolt at pivot 3) to said room floor section and said room roof section; each room roof section (81 and 82) being pivotally connected to the core roof section (50-54) on the same side of the central core as each room floor section is connected to the core floor section (as illustrated in figures 2 and 6-8 roof is pivotally connected to core on the same side as the floor section);

wherein each folding room floor section and sub-floor section and each folding room roof section are capable of being alternately detached from its room wall members

and pivoted inwardly toward said central core or central sub-core and positioned in close proximity to and substantially parallel to a corresponding core wall or sub-core wall and thereby form a compact folded structure (as illustrated in compacted folded structure of figures 2 and 6), or pivoted outwardly away from said central core to define a room adjacent to said central core when attached to its room wall members (as illustrated in figures 6-8, 11, 13 and 17);

However, Colvin fails to explicitly disclose a second sub-core (i.e. a third story) having all the limitations of the core and the sub-core. It would have been obvious to one of ordinary skill in the art to provide a second sub-core or third story to the invention of Colvin in order to provide additional living space to the residential building. Further, it would have been obvious to provide a third story to the invention of Colvin since it has been held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced (*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960)).

Further, Colvin fails to explicitly disclose each of said core and sub-core walls, core and sub-core floor sections and core roof section comprise a plurality of metal channel beams (instead, Colvin discloses wooden beams) and wherein said core walls, room wall members, sub-core walls, sub-room wall members, second sub-core walls, and second sub-room wall members further comprise a plurality of spaced metal channel studs having at least one flat side, wherein at least one of said metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one core wall room wall member, sub-core wall, sub-room wall member, second

sub-core wall, or second sub-room wall member, and wherein an end of the metal channel stud rests on an opposite edge flange of the metal channel beam.

Nystrom teaches a metal building having metal channel beams (70, 75, 76, 98; figures 1, 3-5, 9-13 and 17-19) wherein all the walls have metal channel beam construction and wherein at least one of said metal channel studs is positioned within a notch cut into an edge flange of a metal channel beam of at least one room wall member (as illustrated in figures 1, 3-5, 15 and 17-19, interconnecting metal uprights and studs and rafters are all connected by providing interlocking via notched ends wherein the end of one member is disposed in the notch of another.

Therefore, from the teaching of Nystrom, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the wooden beams of Colvin with the teaching of using metal channel beams as disclosed in Nystrom to provide stronger support to the folding structure.

**Regarding claims 2, 13 and 24**, the combination of Colvin and Nystrom teaches the beams comprise steel (column 6 lines 33-36 of Nystrom).

**Regarding claims 3, 14 and 25**, Colvin teaches the beams pivot around bolts (beams pivot about pivots 2-4 as illustrated in figures 2, 3, 6-8, 11, 13, 16 and 17).

**Regarding claims 4, 15 and 26**, the combination of Colvin and Nystrom teaches the beams have a generally U-shaped cross-section with a wide flat side extending to opposite perpendicular edges (the beams 70, 75, 76, 98 of Nystrom have U-shaped cross sections with a flat side; as illustrated figures 1, 3-5, 9-13 and 17-19).

**Regarding claims 5, 16 and 27**, the combination of Colvin and Nystrom teaches the beams have a generally C-shaped cross-section with a wide flat side extending to opposite perpendicular edges having perpendicularly inwardly positioned edge flanges (the beams 70, 75, 76, 98 of Nystrom have C-shaped cross sections with a flat side and inwardly positioned edge flanges 100A; as illustrated figures 1, 3-5, 9-13 and 17-19).

**Regarding claims 6, 17 and 28**, the combination of Colvin and Nystrom teaches adjacent beams are positioned with their respective wide flat sides in juxtaposition and said beams being attached together with a plurality of bolts and nuts (the beams 70, 75, 76, 98 of Nystrom are juxtaposed and attached via nuts and bolts; as illustrated figures 1, 3-5, 9-13 and 17-19).

**Regarding claims 8, 9, 19, 20, 30, 31 and 34**, the combination of Colvin and Nystrom teaches a plurality of rafters (via truss 31 and folding roof sections 50-54), said rafters comprising a pair of metal channel beams having at least one flat side (metal channel rafter beams via rafter elements 40 and 41 as illustrated in figure 19 of Nystrom), and which pair of beams are attached together at one end of each of said beams via at least one bolt and nut (as illustrated in figure 19 of Nystrom; the rafter beams of Colvin are also attached via nuts and bolts), one of said rafter beams being notched and the other of said rafter beams being positioned within the notch such that said rafter beams are interlocking with one another (figures 17-19 of Nystrom illustrate the interlocking process of connecting rafter beams 40 and 41 together via notches 48 and 48A and threaded fasteners 50);



and each room roof section being pivotally connected to the core roof section via an end of a rafter beam on the same side of the central core as each room floor section is connected to the core floor section (as illustrated in figures 6-8, 10-13 and 17 of Colvin, the room roof sections are pivotally connected in the manner as claimed by Appellant).

**Regarding claims 10, 21, 32, and 35**, the combination of Colvin and Nystrom teaches a plurality of metal channel core roof section supports, each one of said core roof section supports being positioned within a notch in one of the rafters (figures 4 and 5 of Nystrom illustrate a rafter assembly having a notch in which metal channel support member is inserted) and attached to said rafter via at least one bolt and nut such that said supports and said rafter beams are interlocking with one another (column 4 line 70 to column 5 line 10 of Nystrom teaches the fastening of support columns to rafters of figures 4 and 5 via suitable fasteners inserted through the holes. It would be obvious to use nuts and bolts as the suitable fasteners).

**Regarding claims 11, 22, 33 and 36**, the combination of Colvin and Nystrom teaches a plurality of metal channel room roof section supports (metal channel beams via Nystrom), each room roof section being pivotally connected to the core roof section by pivotally connecting each of the room roof section supports by a bolt and nut to one of said rafter beams (as illustrated in figures 2, 3, 6-8 and 10-13 of Colvin, room roof sections are pivotally connected to core roof sections via pivots 2-4 which comprise a bolt and nut).

3. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Colvin, Jr. (4,660,332) in view of Nystrom et al. (3,146,864) further in view of Smith (5,461,832).

**Regarding claim 37**, the combination of Colvin and Nystrom teaches a process of prefabricating a folding structure as described above in the preceding claim rejections of claims 1-36, however, the combination of Colvin and Nystrom fails to explicitly disclose a trailer which comprises a rectangular framework, which framework is disposed on at least four wheels, an upper edge of the rectangular framework comprising a channel around a periphery of the framework and forming a habitable structure on the trailer.

Smith teaches a transportable foldable building which comprises a rectangular framework (as illustrated in figure 1), which framework is disposed on at least four wheels (four wheels illustrated in figures 4 and 7-10), an upper edge of the rectangular framework comprising a channel around a periphery of the framework (column 6 lines 48-50 teaches the trailer includes channel brackets on opposing sides of the trailer in order to facilitate construction of the building) and forming a habitable structure on the trailer (column 1 lines 43-45 and column 3 lines 37-46 teaches the building is built on the trailer).

Therefore, from the teaching of Smith, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the folding structure of the combination of Colvin and Nystrom to include a trailer as taught by Smith in order to provide a transport means which eliminates the step of placing a structure onto a trailer thereby reducing costs and manufacturing time.

**(10) Response to Argument**

Appellant's arguments beginning at page 15 lines 1-19 are drawn to the rejections in which the examiner contends it would be obvious to use metal beams instead of wooden beams. The examiner maintains the position that it is widely well known in the art to replace one material for another where it would be obvious or beneficial to do so. The appellant even mentions in the Brief that "It is known that structures having a wooden framework may become infested with termites, or may easily become warped or damaged if exposed to elements such as wind and water." These are just a few of the many reasons that it would be obvious to use metal beams instead of wooden beams. The substitution of one design material for another generally does not constitute patentable subject matter. Further, metal framing members and wooden framing members are both commonly used in modern construction. Thus, one having ordinary skill in the art is more than capable of determining which material they would use for any given building construction.

The appellant further asserts on page 16 lines 3-15 that Nystrom does not teach a folding building thus the metal members of Nystrom do not meet the claim limitations. The examiner would like to point out that the Nystrom reference obviates the use of metal building members, not the use of a folding structure. Colvin teaches a folding structure exactly as claimed with the only difference being the materials used which include certain notched members (discussed below). It would have been obvious to one of ordinary skill in the art to provide pivotable metal members to replace the pivotable wooden members of Colvin. The metal members would be formed to the

same or similar dimensions as the wooden members, with obvious design considerations taken for the use of a different material having different material properties, e.g., the metal beams would not need to be as thick as wooden beams to provide the same amount of strength to the structure.

The appellant's final argument is drawn to the notch provided in the metal channel beam of appellant's figure 11 which accepts a metal channel stud. The Final Rejection points to various drawings in Nystrom which teach two intersecting members joined by way of a notch in one of the members. The referenced drawings of Nystrom were figures 1, 3-5, 9-13 and 17-19. The appellant focuses on figures 17-19 in the arguments at page 16 lines 17-29, but ignores figure 5 which illustrates an equivalent stud (at 83, 85, 87, etc.) and channel beam (at 80). As clearly illustrated, a notch is formed in 80 which accepts the stud and the stud becomes seated in the channel beam exactly as claimed. Thus it would have been obvious to provide a similar configuration in the combination of Colvin and Nystrom.

Appellant's arguments with regard to independent claim 37 are repeated from the above addressed arguments and are thus addressed under the same rationale.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/JASON HOLLOWAY/

Examiner, Art Unit 3664

/Brian E. Glessner/

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Conferees:

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/MJ/ Marc Jimenez